Chapter I

THE COMMUNITY OF BANG CHAN

The Geographical Setting

In the populous flat central plain of Thailand where Bang Chan was located, fenceless geometric rice-fields, dotted by clumps of trees, stretch as far as the eye can see. Houses, clustering occasionally into hamlets, line the canals that serve for domestic use, drainage, irrigation, and communication. A few mounded-up roads lead out from Bangkok, the national capital on the Menam Chao Phraya, the great central river.

The monsoon divides the year into three seasons: a hot and wet (late May through November); a cool and dry (December to mid-February); and a hot and dry (late February to mid-May). The temperatures range annually from 59° to 89° F. (15° to 32° C.) with monthly means of 77° to 86° F. (25° to 30° C.) (de Young:5). A drop at night averages around 18° F. (10° C.) in April, and 22° F. (12° C.) in January, while the relative humidity varies between 66 per cent and 81 per cent (Hauck, et al.:12). Rainfall averages about 50 inches a year, 40 of which fall in the wet season (Janlekha:21). Because of the run-off from the mountains in the north, once a year the Menam Chao Phraya slowly rises, fills the canals and then overflows its banks, covering the plain for hundreds of miles to a depth of three feet or more. In Bang Chan, the water stood on the land from June until January, with its peak in October. From February to May the canals ran low, and the land dried and cracked from the intense heat.

The Community

In 1954, 1700 persons (338 families) lived in Bang Chan. Muslims, comprising 10 per cent of the population, lived as fully Thai citizens in all parts of the community in economic and social symbiosis with Buddhists. A few ethnic Chinese had married into Thai families and were accepted.

The community spread over an area of about 7000 rai (1000 hectares or 4 square miles). Bang Chan Canal bisected

Bang Chan Canal bisected the community and joined, about one mile south, Sānsēb Canal, a broad old waterway connecting Bangkok and Minburī with the canal network of the central plains. A well-raised, year-round road which ran between Bangkok, 20 miles to the southwest, and Minburī, two miles east, cut through one side of the area. On it lay Bang Khūat, another community, about eight kilometers from Bang Chan (cf. Kaufman:1960), and a cluster of houses called "Kilō sèet," (Kilō 8) both west of Bang Chan and nearer to Bangkok. A shallow canal flanked this road most of the way.

The town of Minburī with district offices, shops, and pharmacists, and a good-sized Muslim population was well-known to most of the residents of Bang Chan. Its middle school drew from the surrounding farming countryside, including Bang Chan, those few pupils whose educational aspirations led them beyond the local elementary school. Minburī had electricity, but no telephone or telegraph facilities.

For nine months of the year, while Bang Chan lay under water, most of the marketing was done through boat-vendors who plied the canals. During the dry months, or for large festivities, people marketed at Minburī, Kilō sèet, or in Bangkok.

The Thai government administered Bang Chan through two district offices (amphoe), one located in Minburī, the other in Bangkapi, close to Bangkok. The common boundary of their respective districts happened to run through the middle of the community. Seven local head men, each in charge of one of the seven hamlets (mūban) into which the entire community was divided, reported to one or the other district office. They transmitted instructions from their superiors to the farmers, maintained order mostly by their personal prestige, and kept the village census more or less up to date by recording and reporting marriages, births, and deaths.

At the center of the community was the cherished Buddhist temple with its abbot, monks, and novices, numbering 15 to 30 depending on the season. The elementary public school, occupying one of its buildings,[1] was attended by 300 children aged eight to fifteen, both Buddhist and Muslim. The temple compound was surrounded by a number of houses, including a cafe and stalls for small vendors. A small country mosque (surao) in another hamlet was the religious center for the Muslim minority, some of whose children attended another school just outside the Bang Chan community. The abbot and the imam, the respective local heads of the two religious faiths, were of importance in the community as leaders.

1. A new large school has since been built away from the temple compound.

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361 Most of the dwellings in Bang Chan flanked the canals that stretched away from the temple area. All houses were in sight of one or more other houses, if not standing side by side. Here and there they formed small hamlets where kinsmen tended to live in proximity. Around the houses were kitchen gardens and threshing floors, and behind them, the fields. Bananas grew abundantly; pineapples, mangoes, and other fruits occasionally. The canals were full of water-vegetables, cultivated or wild, while fish were plentiful. Water sources were the rain, kept in large jars; artificial ponds dug near the houses and fed from ground water; and the canals. No wells existed. The large tile roofs of the temple collected a good deal of rain-water which was available to anyone during the hot season when all water ran low.

351 245 241 226 312

General Nutritional Level

146 [142] The population was physically well-formed with few physical deformities evident. There was little obesity or emaciation. The daily diet (cf. Hauck, et al.:passim) consisted of large quantities of rice, with small amounts of fish, meat, vegetables, fruits, spices, and eggs. Food at the not-infrequent festivals [292] was rich in meat, eggs, and sugar. No milk was available except canned imports, and little was used. "Nevertheless, though caloric deficiency ('hollow hunger') was not prominent, over half of a sample of the population inspected medically had one or more signs of malnutrition. Even in a group chosen for research reasons for apparently good nutrition, about one in four had some such sign and in another group, selected for evidence of poor nutrition, two out of three persons had such."[2] The nutritional level in Bang Chan did not always correlate absolutely with economic level, for nutritionally one of the poorest families was found to be one of the best fed because the father did so much fishing and collecting of green canal vegetables. The change-over, some decades ago, from home pounding of rice to steam milling by most families had probably been a major factor in increasing nutritional deficiencies throughout the community. [178] [256]

2. Dr. H.M. Hauck, personal communication, 1958.

581 It was not felt necessary to marry. Because of the strong
589 economic position of women, a few spinsters had their own homes, farmed their own lands, enlisting nephews and nieces to help, or hiring as needed, and entered fully into the social life of the area. Others lived with relatives and assisted in the maintenance of a larger household unit. Some men, too, never married.
[593] One group of grown siblings of both sexes stated they were "too happy together to marry."

836 Pre-marital chastity was more or less observed. If a girl
848 became pregnant before marriage, her parents brought pressure, usually successful, on the boy to marry her. The occasional illegitimate child was raised without stigma in the girl's family, though problems arose during pregnancy and delivery (cf. "cone of wood" below). The mother later found a husband. One father was angered because he felt his daughter's pregnancy wrecked her chances for a marriage of prestige. He was conspicuous for his social aspirations towards city ways.

864 Information on human sexual matters was gathered by the
831 young sometimes by accidental observation of parents and others, through hints from hearing cursing, and by conversations with grandparents, older siblings, and friends of the same sex. Men joked on sex matters at the all-male rice-uprooting parties. Being antithetic to the ascetic prescriptions of Buddhism, sex talk was highly charged. Sex was never discussed in mixed company.

Residence

592 The nuclear family of husband, wife, and unmarried children was the primary social and productive unit, but other resident kinship units larger and smaller also occurred. After marriage,
[591] the couple usually lived for a time in the house of the parents of one spouse or the other; then, as soon as they could afford it, set up housekeeping in their own house. Of a sample of 98 families in Bang Chan, 30 set up independent households at once after marriage, 18 after one year, and the rest, a few per year, on throughout 10 years; 15 of the families never had a house of their own but lived with other relatives (Janlekha:37). Of 298 families, 59.4 per cent lived independently as a nuclear family, while 34.9 per cent lived with other relatives in the house. (The remaining were single persons living alone, or priests at the temple in the "ecclesiastical family.") The average size of the households (not necessarily the nuclear families) was 5.7 persons, with a range of 1 to 14, the median
• 361 being 6 (ibid. 28-29). The house of a new couple was usually built adjacent to parents or relatives, and certainly within calling distance or sight of some other household. Social
621 patterns of cooperative work, borrowing, and visiting kept adjacent households, whether kin, co-religionists or not, in

APPENDIX

MUSLIM CUSTOMS IN BANG CHAN

The small Muslim minority in Bang Chan though maintaining its identity, lived scattered through every hamlet, with the heaviest concentration around the mosque at the southern edge of the village. The occasional inter-marriage of Buddhist and Muslim was eventually amicably adjusted to the community and the religion. Some Buddhists manifested a veiled hostility in calling the Muslims "stingy." One said, "Muslims have expensive medicine to induce abortion, after which they might kill the baby. A Buddhist would use this medicine to help deliver, but would not dare take life." The Muslim reputation as a source for powerful magic, especially for love and sorcery, bespeaks some edginess in the relations between the 2 ethnic groups, but Buddhists sometimes sought out the benefit of this magic.

In spite of these separatist tendencies, the Muslims were fully Thai citizens, and participated as equals with the Buddhists in the economic, political and much of the social life. The 2 groups were in many respects interdependent. The Muslims did not object to taking life, so acted as butchers for the Buddhists. Muslims were frequent patients of Buddhist mɔ̄, whether priests or lay. The only Muslim who did a little curing was the To Iman, head of the mosque, but few if any Buddhists came to him for cures. Because every mɔ̄ gave an annual ceremony of homage to his teacher attended by everyone who had benefited from those powers during the year, Muslims and Buddhists met amiably at several large feasts. These festivals were public displays, very competitive in feeling, of the success of the different mɔ̄. One became the largest of the village-wide festivities. Buddhist women attended the Muslim female midwife, teacher-rites, and vice versa. Buddhists and Muslims, especially the prominent families, attended each other's home ceremonies, such as weddings, tonsures, and that part of the ordination held in the home (the thaw khwan). Separate kitchens were established at large Buddhist ceremonies so that Muslims could safely adhere to their one dietary regulation, the avoidance of pork. No such arrangements had to be made at Muslim ceremonies for Buddhists had no food taboos, and loved Muslim cooking.

Midwifery was an area of frank, harmonious interchange, with midwives of either religion often attending women of the other. Buddhist male midwives were allowed by the Muslim husbands to attend their wives, though female attendance was preferred. Satisfaction was expressed by Buddhist women over

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132 Bangkok. The tropical monsoon climate divides the year into three seasons, a hot, wet season from late May to November, a cooler, dry season from December to early February, and a hot, 361 dry season from late February to mid-May. The community, scattered over an area of approximately five square miles, was 161 composed of seven neighboring hamlets. In 1954, the population 162 was approximately 1700, divided among 336 households. About 60 per cent of the households were made up of independent families, parents with unmarried children, with an average family [463] size of 5.7 persons. The main occupation of 80 per cent of all families was rice farming.

243 The climate together with the overflowing Chao Phraya [13] river, provided natural conditions for raising a single crop [220] of wet rice. From May or June to February, the principal activities were those connected with rice production. This crop greatly exceeded the needs for local consumption as human food, [433] feed, and seed. The surplus of rice which was sold, was estimated for 1953 as 1.4 times the amount used for all purposes within the village (Janlekha, 1955).

346 Wat Bang Chan, the Buddhist monastery and place for re- 621 ligious exercises, was also the center of social life in the [795] community. When data for this study were being gathered, the one primary school in the village was located on the grounds of the wat. The community was defined simply by the clientele which patronized Wat Bang Chan and this elementary school. [563] Within the area of the community lived a small minority of Thai Moslems who patronized a mosque and school just outside Bang Chan. The few Chinese in the village were considered as part of the Thai-Buddhist community. Information to be presented [028] on food habits refers primarily to habits of the Buddhist majority, although some reference will be made to ways in which Moslem practices differed therefrom.

133 Although for six or more months of the year the fields 243 were covered with water, sometimes to a depth of a meter or 491 more, a year-round road, connecting Bangkok and Minburi, the nearest market town, ran through one edge of the village. Bus 484 service was available along this road, to either Bangkok or 487 [494] Minburi but within the community one went by boat on the network of canals during the wet season, and during the dry season, [501] on foot along the dikes or across fields. From late January through May, when subsidiary canals were apt to be dry, getting about was somewhat difficult. Boat travel was considered easy, but as many families had only one boat, a trip to the store or even to a neighbor's home had to be planned with reference to the activities of other family members.

443 Large scale purchases, as for a ceremony, were always made at a big market, but in general, instead of people going to the market-town, the "market" came to the people. Boat-venders brought not only fresh produce and staples but also sweets, ices, soft drinks, and cooked foods such as Chinese

443 noodles. Their prices were higher than in Minburi or Bangkok, but their service was such a convenience that many people rarely went to town. Some adults in Bang Chan had never been to Bangkok though almost all had visited Minburi, about 3 [437] miles from the temple. Venders often extended credit, and also accepted items such as fresh fish, fruit, and eggs on a barter basis, thus providing an outlet for small amounts of home products. When the subsidiary canals were dry, however, venders could not get to some parts of the village.

Home Sites and Houses

General Arrangement

• 361 489 Since the canals provided the chief means of local transportation for much of the year, and also supplied water for many household uses, houses were built near the canal, usually within sight of a neighbor's. Home sites were mounded up to a level of two or three feet above that of the fields, but even so, water might cover the mound at the peak of the rainy season. Old wooden houses were set in a grove of bamboo, bananas and other fruit trees and vines, occa- 343 sionally betel and coconut palms. Nearby might be a shed for the water buffalo which were the draught animals used in farming. Rarely one saw a walled privy.[1] On the same mound might be a cottage built by parents for married children or by an affluent farmer for a hired hand. In this case, the threshing floor, firewood from trees on the mound, and area 342 for kitchen garden would be shared. Many houses were built on stilts to avoid flooding when the water level was high. If the house was elevated sufficiently, the area underneath provided a relatively cool shelter during the hot season for the buffalo, and even for family members for some of their daytime activities.

Depending on the resources of the family, houses were built of either thatch or wood, roofed with thatch, galvan- 352 ized iron or occasionally, tile. Split bamboo or matting might be used for dividing walls if the house had more than one room. Wooden flooring was usual, but in simpler thatched houses with dirt floors, the buffalo might be sheltered under the same roof with the family. In such a house, one or more low wooden platforms were built for sitting and sleeping. Wide cracks between floor boards conveniently permitted betel 364 chewers to spit without the need for a spittoon. Those who 264 were preparing food or clearing up after a meal could also thus discard refuse or dispose of leftover food that was to 344 be given to chickens, without leaving the kitchen. Some

1. cf. Hauck, 1956, p. 45-6 for description of latrine facilities.

244 Vegetables and Fruit. - Although kitchen-gardening has been encouraged by the Thai government, vegetables and fruit were grown in Bang Chan to a limited extent only. Every family had some sort of kitchen garden, but many edible plants which can be grown in the village were grown by relatively few families. The list of fruits grown in Bang Chan in 1948-49 (Sharp et al., 1953) included four times as many items as were grown by one or more of the 11 families that participated in the dietary study. The list of vegetables and spice plants grown or gathered by these families included 27 items, as compared to 41 listed by Sharp et al. Spices and chili were more commonly grown than vegetables and fruit.[1]

244 245 433 One affluent household whose food expenditures for 1949 were reported by Sharp et al., (1953, pp. 214-215) produced for home use, 125 kg. of palm sugar valued at 200 baht and 500 coconuts, valued at 450 baht. Home production of both of these was unusual. Few families in Bang Chan grew either sugar palms or coconut palms and expenditures for coconuts and palm sugar were usual. During the major flood of 1942, villagers noted that coconut palms survived whereas all other fruit trees were destroyed. After this, a number of farmers planted coconut palms, but they had not yet begun to produce.

361 311 [351] In 1954, about 120 acres (300 rai) of the total of about 2800 acres (7000 rai) of land in the village were used for home sites and home gardens for 336 households. Individual home sites usually varied in area from about one-quarter to one acre, and were occupied by buildings, threshing floor and space for poultry as well as trees and garden space. Portions of this might be under water for several months of the year. Increased home production of fruit and vegetables would in many cases necessitate increasing the size of the home site by purchase, mounding or both. Ordinarily, increased land for the kitchen garden was obtained at the expense of some of the

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[245] [249] [262] [262] [245] 1. In a typical farm garden in Bang Chan one would find bananas growing, and a number of plants used for seasoning curry. Various kinds of chilies, lemongrass, bergamot, of which both rind and leaves are used, and galangal were grown by all families who participated in the dietary study. Both sweet and holy basil were commonly grown. Many families grew one or more varieties of gourds and of eggplant, some of which can be trained to grow on a tree or trellis. The inflorescence of the banana was also used as a vegetable. Leafy vegetables were not commonly cultivated but some families grew (2)phag (2)ka-(2)cheed, a green water plant, in gardens staked out at the edge of the canal, or in a pool, and some had trees, the leaves of which were edible. Swamp cabbage or (2)phag (3)bung grew wild along the edge of the canals and was the most commonly used green leafy vegetable. A few families grew guava, jujube, star gooseberry, Manila tamarind, mango and pineapple.

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361 rice land. Water-ways, however, were public areas, and any
[505] convenient wide spot might be selected as a private garden. It was marked with stakes, and was apparently not disturbed by others.

262 Mushroom culture as a side line activity of rice far-
344 mers developed during the period when this study was in
433 progress. After threshing, in early 1954, two of eleven families that participated in the dietary study started raising mushrooms. Although most of these were sold, both families reported frequent inclusion of mushrooms in the family diet. One informant commented that families that planted mushrooms also ate them almost every day, and said "Adults complain that it is a wearisome food but children still like it." Mushrooms were used fried, with pork, in soup or in curry.

[436] As with tilapia, mushroom culture appears to have been undertaken primarily to increase cash income, and was abandoned when it was no longer profitable financially (see Appendix A, pp. 101-102).

Food Purchased and Cash Expenditures for Food

262 Relatively few foods were purchased, but some of these,
432 such as onion, garlic, limes, tamarind, coconut and palm sugar were so frequently used that without cash to buy them, villagers would have considered their diet monotonous. Many had their own supply of fresh and dried chilies, fishsoy, and shrimp paste, which might, however, be inadequate for their needs. Other foods not commonly produced in Bang Chan were purchased for variety.

262 Estimates of mean annual consumption and cost of pur-
435 chased foods, for 106 households in Bang Chan are shown in
128 Table 1.

262 The list of purchased foods presented by Janlekha (1955)
432 was compiled after preliminary interviews with a number of household heads. It includes the principal food items which were commonly purchased in Bang Chan. In addition to these, the affluent household studied by Sharp et al. (1953) spent appreciable amounts for vegetables (listed as cucumbers, lettuce, cabbage, etc.) and fruit (pineapple, mangoes, melons, etc.) and small amounts for peanuts, soy sauce and vinegar sauce. Eggplant and white radish were bought by more than half the families that participated in the dietary study, and were used on 11 and 8 survey days respectively. Other vegetables and fruits, bought by one or two of the 11 families, and used on not more than 3 of the 44 survey days were: mung beans, snap beans, bean sprouts, Chinese celery, cucumber, leeks, lettuce, mushrooms, sugar cane, sweet potato, taro, turmeric, (2)ma-(1)faj or rambai, Thai nutmeg, orange, pineapple, rambutan, sandorica and watermelon. Salted and pickled white radish and pickled bamboo shoots were the only

[Text continues on page 23---Analyst]

4:Phillips E-4,5 (1956-1957) 1966
AO7 Central Thai AO7
Bang Chan
Thailand AO1

[P. 14]

I

The Village of Bang Chan

Geographical and Cultural Setting

T
133 The heartland of Siam is the Mɛ̄naam or Caw Phrajaa Valley, a vast
361 alluvial plain stretching out for some 250 miles north of the Gulf of
161 Thailand and the capital city of Bangkok, where approximately 40 percent
137 of the nation's 26.3 million persons (1960) live.[1] This Central region is
563 distinguished geographically, and to a lesser extent culturally, from the three other major areas of Thailand: the North, a forested mountain area dominated by Chiengmai, Thailand's second largest city, and in whose outer reaches live many of the tribal peoples of Siam; the Northeast, a broad plateau region which is the largest and economically poorest area of the country; and the South, or Peninsular Thailand, a jungle and mountain area where the heaviest concentration of Thai Malay–Moslems live.

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13 The community of Bang Chan is located some 31 kilometers northeast
487 of Bangkok on what is essentially a flat, seemingly endless rice field, broken
361 occasionally by tall Asiatic pines, strings of houses along canals, or clumps
[491] of trees shielding some isolated homesteads. A person seeing Bang Chan for the first time is struck particularly by the intense green of the landscape and, once off the macadam road that connects the village to Bangkok and to the market town of Minburi four kilometers to the east, the stillness of the setting, even along the thickly populated main canal where voices are muffled by the heavy foliage surrounding each house. Often in the early hours of the afternoon the only sound that one can hear in Bang Chan is the dip of the paddles of boats moving up the canal or the barking of dogs.

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[1] There is no general agreement on the precise boundaries of the Mɛ̄naam Valley. Zimmerman (1931), Andrews (1935), Blanchard *et al.* (1958), and most Thai government documents use the term synonymously with "Central region," which would include the provinces east and southeast of Bangkok to the Cambodia frontier, west to the Burma border, and north of the Gulf of Thailand. Credner (1935) and deYoung (1955) on the other hand limit the term to only that portion of the Central region which falls north of Bangkok, equivalent to what Pendleton (1962) calls the "Bangkok Plain." Our population figure refers to the former usage.

4:Phillips E-4,5 (1956-1957) 1966
AO7 Central Thai AO7
Bang Chan

Houses in the village vary considerably in appearance: from the bamboo and thatch dwellings of the poorest families to the sturdy, great gabled houses of teak built by Bang Chan's original settlers to the tiled and corrugated iron-roofed homes of the newly rich. Most, however, follow the traditional Siamese pattern of being built on posts two to ten feet off the ground, mainly as a protection against flood waters. Many homes in Bang Chan give the impression of being permanently unfinished, the bamboo houses because they require constant refurbishment, the wooden dwellings because they are made of teak which seasons best when left untreated and exposed directly to the elements. The merging upper-class urban pattern of painting teakwood has not yet reached Bang Chan.

The major thoroughfare of the community, bisecting it in a north-south direction and perpendicular to the Bangkok-Minburi highway, is Khlɔɔŋ (or Canal) Bang Chan, which links with Khlɔɔŋ Sɛɛn Sɛɛb three kilometers south of the village. The latter, dug in the 1840's and originally intended as a military route to the Cambodian frontier, is one of several major canals dug during the mid-nineteenth century as part of the vast canal system that was constructed in the Central Plain when the region was opened for commercial rice production. Together with the highway built since World War II, a one-hour bus ride to the capital, Khlɔɔŋ Sɛɛn Sɛɛb, provides the villagers with their major access to Bangkok and the rest of the Central Plain. By motorboat a trip to Bangkok via this large, bustling canal takes approximately three hours.

Despite these relatively good communications facilities and the long-standing Thai peasant tradition to *paj thiaw* ("to go around"—for fun, on visits, pilgrimages, often for long distances) few people outside the immediate vicinity of the village have ever heard of Bang Chan. The community is neither a landmark nor is it located near one; it is not famed for any activities (other than having become the research site for the "American professors"); and because it is not a spatially integrated village, Bang Chan cannot even be found on any map of Thailand. Like most Thai settlements, Bang Chan has a Buddhist monastery and a government elementary school. It is these two structures that give the village its identity and the local people a sense of belonging to a community. People say that they live "at home in Bang Chan" because they make their merit at the monastery of Bang Chan and send their children to the Bang Chan school. Approximately five square miles in size and inhabited by 1,771 people living in 296 households (1956 village census), Bang Chan seems in physical appearance and social significance like the thousands of other communities that dot the rice fields of the great Central Plain.

To what extent Bang Chan may be considered "typical" in an analytic sense of other villages of the Mɛɛnaam Valley, or even of the country as a

4:Phillips E-4,5 (1956-1957) 1966
AO7 Central Thai AO7
Bang Chan

In addition to these widespread national patterns, Bang Chan has certain characteristics that seem relatively distinctive of villages of the Central Plain. Not of least importance is the demographic arrangement of the community: either isolated homesteads surrounded by rice fields and connected to larger canals by small tributaries or groups of households strung out along both sides of the canals. The former pattern is more commonplace and historically more recent, and is the result of an expanding population trying to live on a land that has been so committed to the commercialized cultivation of rice that the only available house sites are on the fields themselves. This "typical Central Plain" pattern contrasts with the "cluster" type villages found in the North and Northeast (deYoung 1955) where houses are integrated into compact communities around which are located the rice fields. Although it is difficult to draw precise relationships between demographic arrangements and psychological characteristics, it is noteworthy that the isolated locale of so many Bang Chan households is not out of keeping with the independent and individualistic propensities of the villagers. As one villager expressed it, "If people live far away from each other, there will not be any trouble."

Related to the above pattern and characteristic of other communities of the Central region (cf. Kaufman 1960) is the absence among village residents of any strong sense of identification with the needs of their community as a whole. Except for religious activities and the reciprocal work groups organized for rice transplanting and harvesting—the rewards for which are directly personal—the villagers simply are not predisposed to participate in communal projects. Thus, activities which require large-scale coöperation or organization to be effective—clearing or deepening canals, repairing the unusable road that leads from the main highway to the school, building a playground for the school—are either not carried out or are effected only with extreme difficulty. Although a few villagers recognize these as defects of social organization, it is clear that the majority find it easier to live with them than to try to change the basic institutional framework that sustains them; maintaining their own freedom of action is simply more important, and more culturally "natural," to the villagers than getting involved in public service projects. Again, this pattern seems to contrast with that found in the villages of the North (deYoung 1955) where individuals regularly contribute labor to their communities by repairing village streets and maintaining irrigation systems, even when such efforts require coöperation between adjacent villages.

The inability of Bang Chaners to organize coöperative projects is undoubtedly abetted by the formal governmental structure of the village which, although perhaps more of an administrative nightmare than is normally found elsewhere in the Central Plain, is in its organizational

BANG CHAN

FOREWORD

114 The Cornell Thailand Project, like other Cornell University studies in community development, is a long term investigation in the field of the processes involved in changing cultural behavior in a non-industrialized society. Field research was begun in 1948 in the central plain of Thailand with base line studies of the rice farming community of Bang Chan and its environs. A collaborating staff of Thai and Americans representing different disciplines has continued to work in Thailand at Bang Chan and elsewhere in a series of phases extending to the present.

[013] The first interim report issued by the Project gives a general account of the economic, political and social organization of Bang Chan in 1948-49 together with some material on [128] health and diet (Sharp et al., 1953). Since the circulation of this first interim report was limited, some of the salient characteristics of Bang Chan should be outlined here.

• 361 Bang Chan is located some twenty roadmiles northeast of Bangkok, the rapidly growing major metropolis and capital of Thailand. The village is between two and three miles west of a small district administrative center and market town, [487] Minburi. A century-old canal and to the north of it a post- [491] war hard surface road connect Minburi and Bangkok so that villagers have easy access to these two centers by boat or bus.

621 In 1954, when data for the present study were still being 162 gathered, the population of Bang Chan was about 1700, divided among about 300 households. Roughly 60 per cent of the house- [592] holds were made up of independent nuclear families consisting of parents and unmarried children. The average size for all 243 families was 5.7 persons. Rice farming was the main occupa- 241 tion of 80 per cent of all families. The population in 1954 worked and lived on about 2800 acres (7000 rai) of land. With [463] the exception of some 120 acres (300 rai) used for the home [311] sites and home gardens scattered along the network of canals in the village, all land was devoted to the cultivation of wet rice. Nutritional density is thus practically the same as population density. Of the rice crop, 60 per cent or more may be sold, the remainder providing seed, feed, and the staple [132] food of the people. During the wet season and into the cooler 221 dry season, from May or June to February, the growing of the [517] single crop of rice is the main activity. The hot dry season from March until the rice planting begins again is a period of fiestas, ceremonies, and visiting.

621 The Thai countryside is divided into hamlets, each with [622] a headman in charge of the thirty to sixty households of the [128] hamlet. Seven such hamlets constitute the Bang Chan community. (In the Project studies they are identified by the initials BC and KY followed by a number).

and KY followed by a number.) The center of social life in Bang Chan is the Buddhist monastery or wat and the adjacent government primary school. The community simply consists of the clientele which regularly patronizes Wat Bang Chan and this school rather than other comparable institutions elsewhere in the region. Within the area of the community lives a minority of Thai Moslems constituting about ten per cent of the population. They have their own mosque which happens to be just outside Bang Chan, but they attend many secular and some Buddhist functions at Wat Bang Chan. A number of small stores, which also serve as coffee houses and men's clubs, are used as neighborhood centers in different parts of the village. Near the central wat and school, there is also a store, and the house provided by one of the headmen for use as the Project headquarters.

This present interim report of the Cornell Thailand Project includes some of the data necessary for the design of a program to improve health and diet in Bang Chan. Another report, now in preparation, will give the results of a detailed dietary survey made in the community following the health survey reported on here. These two studies together will indicate existing deficiencies in health and diet, and will permit the formulation of recommendations for needed changes in behavior as these can be realized in the context of the village and national culture.

The author of this study, Dr. Hazel M. Hauck, is Professor of Food and Nutrition in Cornell University. She has been associated with the work of the Cornell Thailand Project since 1950. She not only designed and supervised the research on health, nutritional status, and diet in Bang Chan, but during almost a year of field work in Thailand she obtained valuable data on many other topics for the Project's files. Some of her daily work in Bang Chan made little sense to the villagers, but they nevertheless became devoted to her. Her energy, tact and fine spirit in facing the discomforts and difficulties of rough field work in a tropical foreign land inspired both her Thai and American associates. Working with Professor Hauck were Dr. Anusith Rajatasilpin, now a teacher in the School of Public Health in Bangkok; Miss Sapha Indrasud, now in the Ministry of Public Health; Dr. Chumlong Kittiveja, of the Dental School of the University of Medical Sciences, Bangkok; and Miss Saovanee Sudsaneh, who has been doing post-graduate work in nutrition at Cornell and Harvard. To all of these faithful workers, the Cornell Thailand Project is greatly indebted.

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September, 1956

121 established that none of the correlated factors finally turned out to produce the disease--the necessary condition was a bacillus. Indeed, some of the factors mentioned might be viewed as results of the illness rather than as causal factors. Correlational analysis in a study of this type can establish only that the factors associated with tuberculosis constitute the context within which the necessary condition (in this case the bacillus) was known to operate. In the second example, traffic accidents, it is perfectly apparent that age , or time of day, cannot produce a car accident, but the linkage between accidents and other factors provides portions of the context where accidents occur.

Why is it important to understand this context' Such knowledge can lead to inferences about more direct causation, which serve to narrow down the clinician or experimenter's search for the necessary condition. Indeed, a necessary condition may operate only when it is imbedded in this complex matrix of other related variables--or may even be rendered inoperative when the context is changed. Thus efforts toward change or improvement can be made more effective by being directed to the relevant conditions.

It is essentially this kind of reasoning which underlies the procedure of the present study. Just as in the examples cited, linkages can lead to inferences about causation which may later be checked in the laboratory, so, in the same way, linkages discerned in the present study can lead to inferences about causal factors. They are useful chiefly in providing the context within which the decision to try out these sorts of innovations comes about. In this sense of understanding the context, efforts to produce social change may be made with more understanding of the dynamics.

We may now turn to the data collected in Bang Chan for a study of factors related to acceptance or rejection of innovations within the larger context of a rural community in contemporary Thailand.

THE COMMUNITY AND THE INNOVATIONS

The Scene of Bang Chan

• 361 [131] Twenty-five miles by highway northeast of Bangkok is situated the community of Bang Chan. In this section of the central plains the inhabitants live as near as possible to the rice paddies which they till, so that instead of a compact village Bang Chan is a community spreading broadly along the banks of a [621] canal network which from its two-mile stretch through Bang Chan, covers most of Central Thailand. Under these circumstances precise definition of the community becomes difficult and might be

arbitrary, were it not for the Buddhist temples, a neighboring government-operated primary school, and a few small stores, all of which provide a center for the community. There the inhabitants paddle their boats for religious observances, their children attend school, and anyone with a few minutes gossips over a cup of coffee. These people, furthermore, speak of themselves when outside the community as coming from Bang Chan, and the temple familiarly called "Wat Bang Chan" helps outsiders to identify the particular area.

The community's 1600 inhabitants live in one of seven hamlets, each with an officiating headman who may offer some leadership to the neighborhood. Bang Chan has no political unity beyond the informal influence of the head priest at the temple, for administrative units of local government disregard its social and psychological coherence. On one side of the main canal headmen go a rough two miles to attend meetings with the District Officer, while their neighbors across the canal must spend half a day on the canal to reach the district offices which govern them.

As the survey results indicate, about 88 per cent of the households receive the major portion of their income from cultivating rice, though many of these men and women turn briefly to other occupations during the slack season. The remaining fraction is divided between persons engaged in trade as storekeepers or vendors and those in such service occupations as highway labor or school janitor.

A little less than half of the population owns the land or a portion of the land it works, the remainder renting from neighbors and landholders living away from Bang Chan. Though land becomes scarcer every year and its subdivision into small plots finer, land problems and landlord problems are not important concerns of the area farmers. Economic factors also grant higher status within the community to land holders than to renters and the landless. Sp also age and religious piety bring respect. Yet social structure articulates flexibly enough to afford a young renter of good reputation and energy a decent hearing at a meeting, and indeed, he might carry his point in a group of wealthy landholders. Two or three times in past generations young men have moved from thatched houses in Bang Chan to high government positions in Bangkok through fortunate connections that enabled them to attend leading schools, as well as through their own industry. People merely invoke the Buddhist concept of accumulating merit in present and past lives through good deeds when they comment on the rise of such persons, for with sufficient merit all is possible. Thus regularity in the socio-economic order becomes a moderate level of probability admitting many exceptions.

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

CHAPTER II

THE COMMUNITY

Geography

131 The community of Bangchan is situated some twenty road-miles northeast of Bangkok in the heart of the economically all-important commercial rice growing area of central
• 361 Thailand. Surrounded by their rice fields, the population
[161] of about 1,600 persons lives on some three hundred small
[503] family homesteads scattered along a half dozen connecting
*[243] canals. The community occupies an area of 6,500 rai,[1] or 2,600 acres, all of which, with the exception of about 300 rai of homesites and narrow strips bordering canals, is given over to the production of wet rice.

134 The soil of Bangchan area is heavy dark clay with
*243 an impervious layer at a depth of about six to eight inches and is suited only to rice growing.

133 The area is essentially flat, rising slightly toward
312 the north. It receives, in addition to rain water, irrigation water channeled into it through the Saen-saeb Canal one mile to the south, Samwa Canal one mile to the east, and Khlong-song Canal one mile to the north.[2]

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[804] 1. One rai is equal to two-fifths of an acre.

2. See map on page 162.

132 The normal distribution of rain in the region, how-
*243 ever, is almost ideal for single crop rice production. Heavy rainfall in May and June softens the soil for easy plowing and harrowing. During July and August, when the young plant does not require much water, the rainfall moderates. Again there is heavy rainfall in September and October when the maturing plant needs rising water as it shoots upward. Finally, during the harvesting season of December and January there is a minimum of rainfall. It is in terms of rainfall that the people divide the year into three seasons: (1) the rainy season of late May to November; (2) the cold season, December into early February; and (3) the dry hot season from late February to early May.

Vegetation

*243 Of the 6,404 rai privately owned in Bangchan 6,106
137 rai is devoted to rice and 298 rai to homelots. During the
[311] rice season the village is seen as a vast rice field inter-
[351] spersed with bamboos and fruit trees on the homelots which
* [361] string along the half dozen canals of the village. In the
[312] dry season only stumps of rice stalks are left in the field.
192 Some of these may be removed by burning. With the coming
231 of rains, which usually fall once or twice in March and four or five times in April, a variety of grasses begin to appear and the rice field is gradually transformed into a grass field, providing a pasture for the buffaloes until the next planting season when the size of the grass field available

621 *128 the hamlet or muban -- is indivisible, although as a matter of fact a Thai hamlet is actually made up of individuals and families. We proceeded, then, to draw the boundary line of our natural village by first selecting Wat Bangchan as the social center and defining the natural village as composed of all hamlets whose headmen and the birth of whose population patronized this wat. The hamlets thus included were found to be Muban 4, Muban 5 and Muban 6 of Tambol Bangchan, Amphur Minburi, Changwad Phra-nakorn, and Muban 5, Muban 6, Muban 7 and Muban 8 of Tambol Kannayao, Amphur Bangkapi, Changwad Phra-nakorn. For the sake of brevity these seven hamlets will henceforth be referred to as BC4, Bc5, BC6, KY5, KY6, KY7 and KY8 respectively.

[872] We then checked the list of students enrolled in the primary school which is adjacent to the wat and found that most of the families residing in the seven hamlets sent their children to this school and that only a negligible fraction of the student body consisted of those from other nearby hamlets.

Our "Bangchan Village" may thus be defined as an area within the composite boundary line of BC4, BC5, BC6, KY5, KY6, KY7 and KY8. This is an area of about 6,500 rai (of which 6,404 rai are privately owned), assuming a somewhat circular shape and having as its centers Wat Bangchan and the adjacent Bangchan Primary School (see Map I).

• 361 312 Across this "Bangchan Village" and through its center runs a main canal, the Bangchan Canal, in a northeast-southwest

361 direction dividing it into two halves, the Bangchan half
312 consisting of BC4, BC5, BC6, and the Kannayao half consistingoof KY5, KY6, KY7 and KY8.

621 As mentioned earlier, our functional Bangchan village
634 is under two different administrative authorities, the Bangchan half consisting of part of Tambol Bangchan which is in turn part of Amphur Minburi in Changwad Phra-nakorn (Bangkok) and the Kannayao half consisting of part of Tambol Kannayao which is part of Amphur Bangkapi in the same Changwad Phranakorn.

History of Settlement

194 No official records on the history of the settlement
361 of Bangchan could be discovered, but evidence from genealo-
[503] gies provides a few clues on the subject. Following the digging of Saensaeb Canal some one hundred and twenty years ago, settlement was made along the banks of this important canal which provides one of the few connections between the
175 Menam and Bangprakong rivers. It was not, however, until
621 the 1870's, apparently, that people found it necessary to
361 move onto the land away from the canal. At that time, according to one of our older informants, her father was born in what is now Bangchan, his father and mother having come out from Bangkok as a young married couple to take up farm-
175 ing where plenty of land was available from the Crown. These
621 people and their followers, usually kinfolk or friends, cleared off scrub jungle areas in which, it is claimed, tigers and

• 361
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7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

TABLE 28

ESTIMATED PRICES OF BANGCHAN LAND BY ZONE
SHOWING PRICE CHANGES FROM 1948 TO 1953
Bangchan, Thailand, 1948-53

Zone*	Location	1948-Price baht/rai	1953-Price baht/rai	Increase baht/rai	Increase Per cent
Residential:					
1	Roadside** (200 m. depth)	300	12,000	11,700	3,900
Agricultural:					
2	"Thung Nai Sab"-	270	1,500	1,230	456
3	"Thung Nai Pho"	280	1,800	1,520	543
4	"Thung Kl. Kred"	250	2,000	1,750	700
5	Kl. Kred - Kl. Bangchan	230	1,500	1,270	552
6	Kl. Krached-Kl. Bangchan	210	1,500	1,290	614
7	Kl. Bangchan-Kl. Kralog	200	1,200	1,000	500
	Av. for ag. land	240	1,583	1,343	560

* See Map I.
** In 1948, this zone was still considered agricultural land -- not residential land as it was in 1953.

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

MAP I

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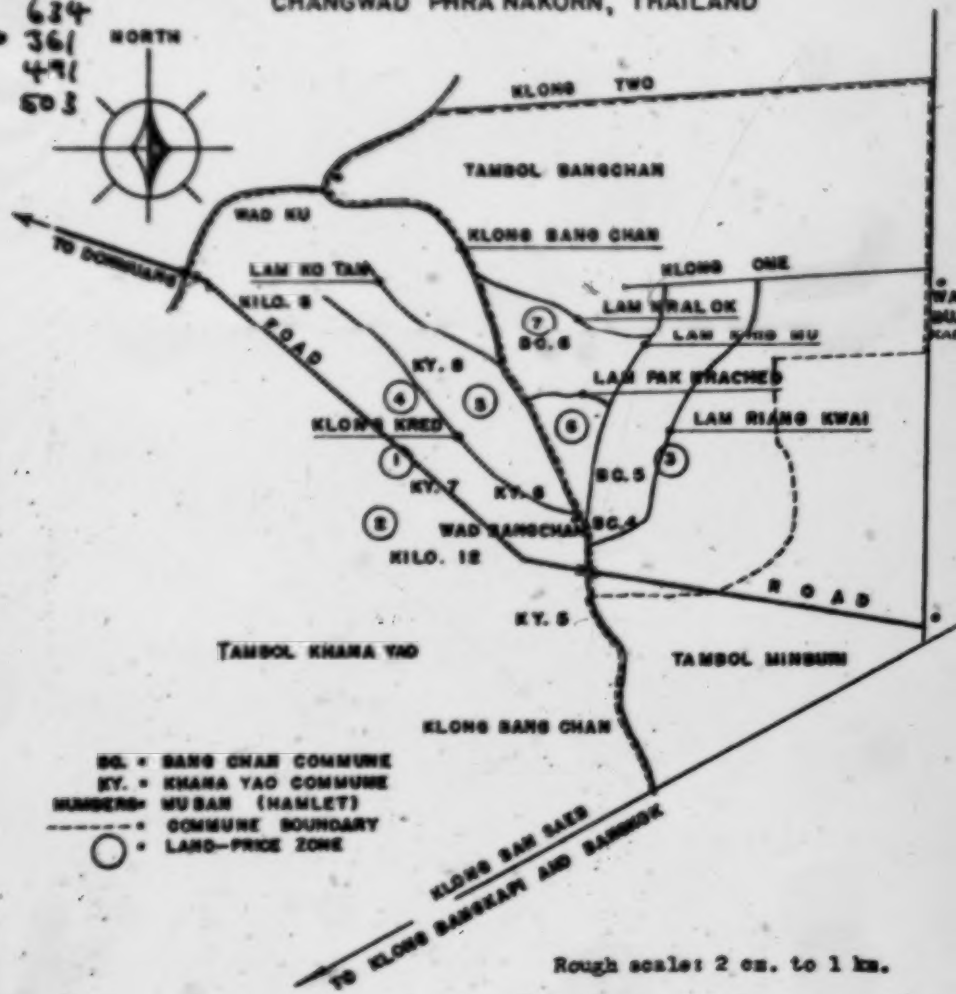
SKETCH MAP OF TAMBOL KHANA YAO, AMPHOE BANGKAPI AND TAMBOL BANGCHAN, AMPHOE MINBURI CHANGWAD PHRA NAKORN, THAILAND



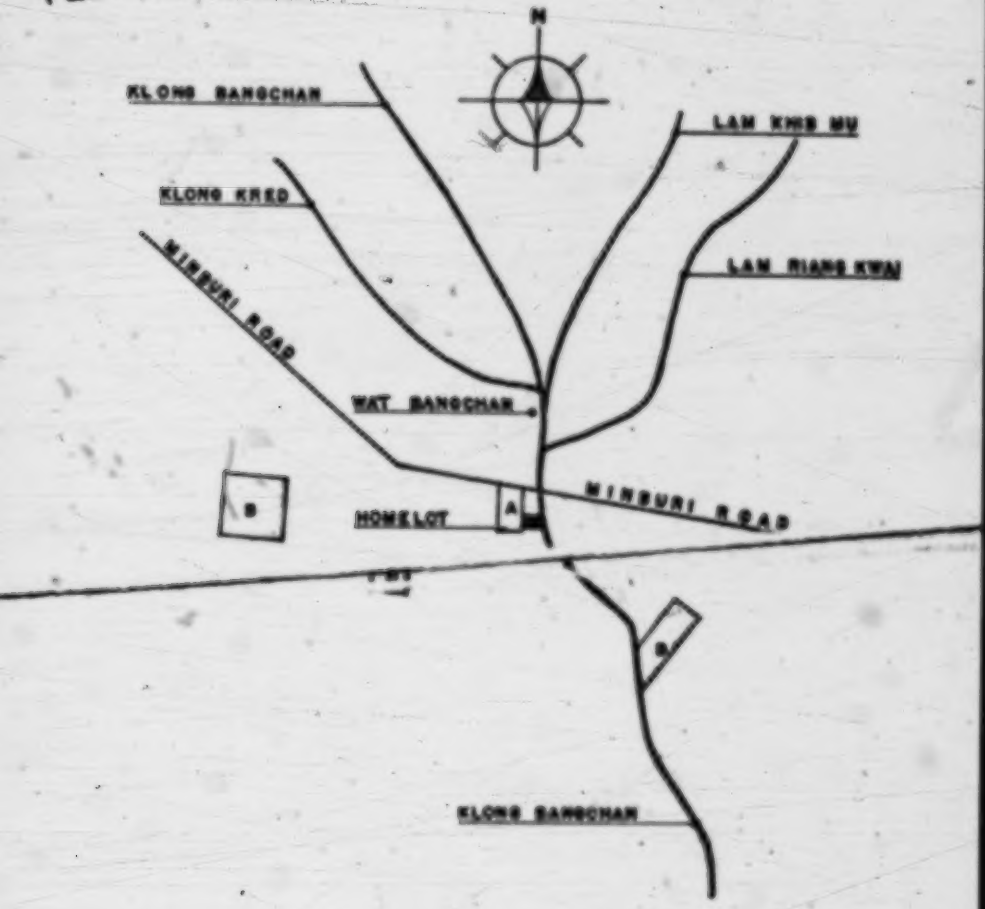
Rough scale: 2 cm. to 1 km.

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

MAP II

243
102
361
423

SKETCH MAP OF CHOM FARM AND HOME LOT
BANGCHAN, THAILAND
1953



Rough scale: 4 cm. to 1 km.